SEQUENCE LISTING

<110> Presnell, Scott R.
Taft, David W.
Foley, Kevin P.

<120> Mammalian Transforming Growth Factor Beta - 9

<130> 98-54

<150> 60/100,706
<151> 1998-09-17

<160> 22

<170> FastSEQ for Windows Version 3.0

<210> 1
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<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (71)...(676)

<400> 1

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tcaggtctgg atg ctg gta gcc ggc ttc ctg ctg gcg ctg ccg ccg agc       109
           Met Leu Val Ala Gly Phe Leu Leu Ala Leu Pro Pro Ser
            1               5                  10

tgg gcc gcg ggc gcc ccg agg gcg ggc agg cgc ccc gcg cgg ccg cgg      157
Trp Ala Ala Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg
     15                  20                  25

ggc tgc gcg gac cgg ccg gag gag cta ctg gag cag ctg tac ggg cgc      205
Gly Cys Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg
 30                  35                  40                  45

ctg gcg gcc ggc gtg ctc agt gcc ttc cac cac acg ctg cag ctg ggg      253
Leu Ala Ala Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly
                50                  55                  60
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ccg cgt gag cag gcg cgc aac gcg agc tgc ccg gca ggg ggc agg ccc      301
Pro Arg Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro
            65                  70                  75

gcc gac cgc cgc ttc cgg ccg ccc acc aac ctg cgc agc gtg tcg ccc      349
Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro
        80                  85                  90

tgg gcc tac aga atc tcc tac gac ccg gcg agg tac ccc agg tac ctg      397
Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu
    95                  100                 105

cct gaa gcc tac tgc ctg tgc cgg ggc tgc ctg acc ggg ctg ttc ggc      445
Pro Glu Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly
110                 115                 120                 125

gag gag gac gtg cgc ttc cgc agc gcc cct gtc tac atg ccc acc gtc      493
Glu Glu Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val
                130                 135                 140

gtc ctg cgc cgc acc ccc gcc tgc gcc ggc ggc cgt tcc gtc tac acc      541
Val Leu Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr
        145                 150                 155

gag gcc tac gtc acc atc ccc gtg ggc tgc acc tgc gtc ccc gag ccg      589
Glu Ala Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro
    160                 165                 170

gag aag gac gca gac agc atc aac tcc agc atc gac aaa cag ggc gcc      637
Glu Lys Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala
175                 180                 185

aag ctc ctg ctg ggc ccc aac gac gcg ccc gct ggc ccc tgaggccggt      686
Lys Leu Leu Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
190                 195                 200

cctgccccgg gaggtctccc cggcccgcat cccgaggcgc ccaagctgga gccgcctgga    746
gggctcggtc ggcgacctct gaagagagtg caccgagcaa accaagtgcc ggagcaccag    806
cgccgccttt ccatggagac tcgtaagcag cttcatctga cacgggaatc cctggcttgc    866
ttttagctac aagcaagcag cgtggctgga agctgatggg aaacgacccg gcacgggcat    926
cctgtgtgcg gcccgcatgg agggtttgga aaagttcacg gaggctccct gaggagcctc    986
tcagatcggc tgctgcgggt gcagggcgtg actcaccgct gggtgcttgc caaagagata   1046
gggacgcata tgctttttaa agcaatctaa aaataataat aagtatagcg actatatacc   1106
tacttttaaa atcaactgtt ttgaatagag gcagagctat tttatattat caaatgagag   1166
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ctactctgtt acatttctta acatataaac atcgtttttt acttcttctg gtagaatttt 1226
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ctcgcatgcc ccagggccag ctaagagttc caaagatctc agatttggtt ttagtcatga 1466
atacataaac agtctcaaac tcgcacaatt ttttcccccc tttgaaagcc actggggcca 1526
atttgtggtt aagaggtggt gagataagaa gtggaacgtg acatcagtgc cagttgtcag 1586
aagaatccaa gcaggtattg gcttagttgt aagggcttta ggatcaggcc gaatatgagg 1646
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tgccacgaga gctaggtcct tgatcttttc tttagattga aagtctgtct ctgaacacaa 1766
ttatttgtaa aagttagaag ttctttttta aatcattaaa agaggcttgc tga 1819

<210> 2
<211> 202
<212> PRT
<213> Homo sapiens

<400> 2

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Met Leu Val Ala Gly Phe Leu Leu Ala Leu Pro Pro Ser Trp Ala Ala
 1               5                  10                  15
Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys Ala
            20                  25                  30
Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala Ala
        35                  40                  45
Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg Glu
    50                  55                  60
Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp Arg
65                  70                  75                  80
Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala Tyr
                85                  90                  95
Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu Ala
            100                 105                 110
Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu Asp
        115                 120                 125
Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu Arg
    130                 135                 140
Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala Tyr
145                 150                 155                 160
Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys Asp
                165                 170                 175
Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu Leu
            180                 185                 190
Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
        195                 200
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<210> 3
<211> 187
<212> PRT
<213> Homo sapiens

<400> 3

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Ala Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys
 1               5                  10                  15
Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala
            20                  25                  30
Ala Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg
        35                  40                  45
Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp
    50                  55                  60
Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala
65                  70                  75                  80
Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu
                85                  90                  95
Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu
            100                 105                 110
Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu
        115                 120                 125
Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala
    130                 135                 140
Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys
145                 150                 155                 160
Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu
                165                 170                 175
Leu Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
            180                 185
```

<210> 4
<211> 186
<212> PRT
<213> Homo sapiens

<400> 4

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Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys Ala
 1               5                  10                  15
Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala Ala
            20                  25                  30
Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg Glu
        35                  40                  45
Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp Arg
    50                  55                  60
```

```
Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala Tyr
65                  70                  75                  80
Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu Ala
                85                  90                  95
Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu Asp
            100                 105                 110
Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu Arg
        115                 120                 125
Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala Tyr
    130                 135                 140
Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys Asp
145                 150                 155                 160
Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu Leu
                165                 170                 175
Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
            180                 185
```

<210> 5
<211> 185
<212> PRT
<213> Homo sapiens

<400> 5

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Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys Ala Asp
 1               5                  10                  15
Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala Ala Gly
            20                  25                  30
Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg Glu Gln
        35                  40                  45
Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp Arg Arg
    50                  55                  60
Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala Tyr Arg
65                  70                  75                  80
Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu Ala Tyr
                85                  90                  95
Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu Asp Val
            100                 105                 110
Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu Arg Arg
        115                 120                 125
Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala Tyr Val
    130                 135                 140
Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys Asp Ala
145                 150                 155                 160
Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu Leu Leu
                165                 170                 175
```

Gly Pro Asn Asp Ala Pro Ala Gly Pro
180 185

<210> 6
<211> 23
<212> DNA
<213> Homo sapiens

<400> 6
ccgggtcgta ggagattctg tag 23

<210> 7
<211> 22
<212> DNA
<213> Homo sapiens

<400> 7
gcgtgctcag tgccttccac ca 22

<210> 8
<211> 1221
<212> DNA
<213> Mus musculis

<220>
<221> CDS
<222> (79)...(693)

<400> 8
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aagcatcacg gcgacgcg atg ttg ggg aca ctg gtc tgg atg ctc gcg gtc 111
Met Leu Gly Thr Leu Val Trp Met Leu Ala Val
1 5 10

ggc ttc ctg ctg gca ctg gcg ccg ggc cgc gcg gcg ggc gcg ctg agg 159
Gly Phe Leu Leu Ala Leu Ala Pro Gly Arg Ala Ala Gly Ala Leu Arg
15 20 25

acc ggg agg cgc ccg gcg cgg ccg cgg gac tgc gcg gac cgg ccg gag 207
Thr Gly Arg Arg Pro Ala Arg Pro Arg Asp Cys Ala Asp Arg Pro Glu
30 35 40

gag ctc ctg gag cag ctg tac ggg cgg ctg gcg gcc ggc gtg ctc agc 255
Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala Ala Gly Val Leu Ser
45 50 55

gcc ttc cac cac acg ctg cag ctc ggg ccg cgc gag cag gcg cgc aat 303
Ala Phe His His Thr Leu Gln Leu Gly Pro Arg Glu Gln Ala Arg Asn
60 65 70 75

gcc agc tgc ccg gcc ggg ggc agg gcc gcc gac cgc cgc ttc cgg cca 351
Ala Ser Cys Pro Ala Gly Gly Arg Ala Ala Asp Arg Arg Phe Arg Pro
80 85 90

ccc acc aac ctg cgc agc gtg tcg ccc tgg gcg tac agg att tcc tac 399
Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala Tyr Arg Ile Ser Tyr
95 100 105

gac cct gct cgc ttt ccg agg tac ctg ccc gaa gcc tac tgc ctg tgc 447
Asp Pro Ala Arg Phe Pro Arg Tyr Leu Pro Glu Ala Tyr Cys Leu Cys
110 115 120

cga ggc tgc ctg acc ggg ctc tac ggg gag gag gac ttc cgc ttt cgc 495
Arg Gly Cys Leu Thr Gly Leu Tyr Gly Glu Glu Asp Phe Arg Phe Arg
125 130 135

agc aca ccc gtc ttc tct cca gcc gtg gtg ctg cgg cgc aca gcg gcc 543
Ser Thr Pro Val Phe Ser Pro Ala Val Val Leu Arg Arg Thr Ala Ala
140 145 150 155

tgc gcg ggc ggc cgc tct gtg tac gcc gaa cac tac atc acc atc ccg 591
Cys Ala Gly Gly Arg Ser Val Tyr Ala Glu His Tyr Ile Thr Ile Pro
160 165 170

gtg ggc tgc acc tgc gtg ccc gag ccg gac aag tcc gcg gac agt gcg 639
Val Gly Cys Thr Cys Val Pro Glu Pro Asp Lys Ser Ala Asp Ser Ala
175 180 185

aac tcc agc atg gac aag ctg ctg ctg ggg ccc gcc gac agg cct gcg 687
Asn Ser Ser Met Asp Lys Leu Leu Leu Gly Pro Ala Asp Arg Pro Ala
190 195 200

ggg cgc tgatgccggg gactgcccgc catggcccag cttcctgcat gcatcaggtc 743
Gly Arg
205

ccctggccct gacaaaaccc accccatgat ccctggccgc tgcctaattt ttccaaaagg 803
acagctacat aagctttaaa tatatttttc aaagtagaca ctacatatct acaactattt 863
tgaatagtgg cagaaactat tttcatatta gtaatttaga gcaagcatgt tgtttttaaa 923
cttctttgat atacaagcac atcacacaca tcccgttttc ctctagtagg attcttgagt 983

gcataattgt agtgctcaga tgaacttcct tctgctgcac tgtgccctgt ccctgagtct 1043
ctcctgtggc ccaagcttac taaggtgata atgagtgctc cggatctggg cacctaaggt 1103
ctccaggtcc ctggagaggg agggatgtgg gggggctaga accaagcgcc cctttgttct 1163
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<210> 9
<211> 205
<212> PRT
<213> Mus musculis

<400> 9

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Met Leu Gly Thr Leu Val Trp Met Leu Ala Val Gly Phe Leu Leu Ala
 1               5                  10                  15
Leu Ala Pro Gly Arg Ala Ala Gly Ala Leu Arg Thr Gly Arg Arg Pro
            20                  25                  30
Ala Arg Pro Arg Asp Cys Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln
        35                  40                  45
Leu Tyr Gly Arg Leu Ala Ala Gly Val Leu Ser Ala Phe His His Thr
    50                  55                  60
Leu Gln Leu Gly Pro Arg Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala
65                  70                  75                  80
Gly Gly Arg Ala Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg
                85                  90                  95
Ser Val Ser Pro Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Phe
            100                 105                 110
Pro Arg Tyr Leu Pro Glu Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr
        115                 120                 125
Gly Leu Tyr Gly Glu Glu Asp Phe Arg Phe Arg Ser Thr Pro Val Phe
    130                 135                 140
Ser Pro Ala Val Val Leu Arg Arg Thr Ala Ala Cys Ala Gly Gly Arg
145                 150                 155                 160
Ser Val Tyr Ala Glu His Tyr Ile Thr Ile Pro Val Gly Cys Thr Cys
                165                 170                 175
Val Pro Glu Pro Asp Lys Ser Ala Asp Ser Ala Asn Ser Ser Met Asp
            180                 185                 190
Lys Leu Leu Leu Gly Pro Ala Asp Arg Pro Ala Gly Arg
        195                 200                 205
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<210> 10
<211> 23
<212> DNA
<213> Homo sapiens

<400> 10
gatcatgggg tgggttttgt cag 23

<210> 11
<211> 22
<212> DNA
<213> Homo sapiens

<400> 11
gaggacttcc gctttcgcaa ca 22

<210> 12
<211> 183
<212> PRT
<213> Mus musculis

<400> 12

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Ala Gly Ala Leu Arg Thr Gly Arg Arg Pro Ala Arg Pro Arg Asp Cys
 1               5                  10                  15
Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala
            20                  25                  30
Ala Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg
        35                  40                  45
Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Ala Ala Asp
    50                  55                  60
Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala
65                  70                  75                  80
Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Phe Pro Arg Tyr Leu Pro Glu
                85                  90                  95
Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Tyr Gly Glu Glu
            100                 105                 110
Asp Phe Arg Phe Arg Ser Thr Pro Val Phe Ser Pro Ala Val Val Leu
        115                 120                 125
Arg Arg Thr Ala Ala Cys Ala Gly Gly Arg Ser Val Tyr Ala Glu His
    130                 135                 140
Tyr Ile Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Asp Lys
145                 150                 155                 160
Ser Ala Asp Ser Ala Asn Ser Ser Met Asp Lys Leu Leu Leu Gly Pro
                165                 170                 175
Ala Asp Arg Pro Ala Gly Arg
            180
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<210> 13
<211> 30
<212> PRT
<213> Homo sapiens

<400> 13
Gln Leu Gly Pro Arg Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly
1 5 10 15
Gly Arg Pro Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu
20 25 30

<210> 14
<211> 21
<212> PRT
<213> Homo sapiens

<400> 14
Gly Glu Glu Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr
1 5 10 15
Val Val Leu Arg Cys
20

<210> 15
<211> 34
<212> PRT
<213> Homo sapiens

<400> 15
Cys Val Pro Glu Pro Glu Lys Asp Ala Asp Ser Ile Asn Ser Ser Ile
1 5 10 15
Asp Lys Gln Gly Ala Lys Leu Leu Leu Gly Pro Asn Asp Ala Pro Ala
20 25 30
Gly Pro

<210> 16
<211> 2361
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (572)...(1202)

<400> 16
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gcacaggatc atttcatgtt gttgaggaga aaggagcaac agcctcctcc caccttatta 120
aaaatagaga tttaaaaaaa cctctaattt cctcgaagta cagaatctca agaggtagct 180
ctaaggagaa tccctctggg tttgagcgca ttcctcttcc agggggccta ttcttggact 240
gctttcctta atagagaaat ctctctgagc caaaatcggc ctcccccaat tccatcctgt 300
cggccccact tttctgctcc ggagacttcc aagccagtcc ccactcctcc ttcagccagt 360

```
cgggcccgca cccgcgcccg gcagggccag ccctctcctc ctcctgcgtg gcgcagcaca     420
ggccctgagc gcgcgacccc aggccctggg cgccccgccg catgctcgcg gctggaagcc     480
ccagtttgcg tggcccttcg ggttattccg ctcaagagcc gccgcgtcgc cccatctcgg     540
cgcgaatctg aaagcgcttt cgggggagaa g atg ttg ggg gca ctg gtc tgg         592
                                    Met Leu Gly Ala Leu Val Trp
                                     1               5

atg ctg gta gcc ggc ttc ctg ctg gcg ctg ccg ccg agc tgg gcc gcg       640
Met Leu Val Ala Gly Phe Leu Leu Ala Leu Pro Pro Ser Trp Ala Ala
         10                  15                  20

ggc gcc ccg agg gcg ggc agg cgc ccc gcg cgg ccg cgg ggc tgc gcg       688
Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys Ala
     25                  30                  35

gac cgg ccg gag gag cta ctg gag cag ctg tac ggg cgc ctg gcg gcc       736
Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala Ala
 40                  45                  50                  55

ggc gtg ctc agt gcc ttc cac cac acg ctg cag ctg ggg ccg cgt gag       784
Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg Glu
                 60                  65                  70

cag gcg cgc aac gcg agc tgc ccg gca ggg ggc agg ccc gcc gac cgc       832
Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp Arg
             75                  80                  85

cgc ttc cgg ccg ccc acc aac ctg cgc agc gtg tcg ccc tgg gcc tac       880
Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala Tyr
         90                  95                  100

aga atc tcc tac gac ccg gcg agg tac ccc agg tac ctg cct gaa gcc       928
Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu Ala
    105                 110                 115

tac tgc ctg tgc cgg ggc tgc ctg acc ggg ctg ttc ggc gag gag gac       976
Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu Asp
120                 125                 130                 135

gtg cgc ttc cgc agc gcc cct gtc tac atg ccc acc gtc gtc ctg cgc      1024
Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu Arg
                140                 145                 150

cgc acc ccc gcc tgc gcc ggc ggc cgt tcc gtc tac acc gag gcc tac      1072
```

```
Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala Tyr
            155                 160                 165

gtc acc atc ccc gtg ggc tgc acc tgc gtc ccc gag ccg gag aag gac     1120
Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys Asp
        170                 175                 180

gca gac agc atc aac tcc agc atc gac aaa cag ggc gcc aag ctc ctg     1168
Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu Leu
    185                 190                 195

ctg ggc ccc aac gac gcg ccc gct ggc ccc tga g gccggtcctg           1212
Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro  *
200                 205

ccccgggagg tctccccggc ccgcatcccg aggcgcccaa gctggagccg cctggagggc   1272
tcggtcggcg acctctgaag agagtgcacc gagcaaacca agtgccggag caccagcgcc   1332
gcctttccat ggagactcgt aagcagcttc atctgacacg ggaatccctg gcttgctttt   1392
agctacaagc aagcagcgtg gctggaagct gatgggaaac gacccggcac gggcatcctg   1452
tgtgcggccc gcatggaggg tttggaaaag ttcacggagg ctccctgagg agcctctcag   1512
atcggctgct gcgggtgcag ggcgtgactc accgctgggt gcttgccaaa gagataggga   1572
cgcatatgct ttttaaagca atctaaaaat aataataagt atagcgacta tatacctact   1632
tttaaaatca actgttttga atagaggcag agctatttta tattatcaaa tgagagctac   1692
tctgttacat ttcttaacat ataaacatcg ttttttactt cttctggtag aatttttaa    1752
agcataattg gaatccttgg ataaattttg tagctggtac actctggcct gggtctctga   1812
attcagcctg tcaccgatgg ctgactgatg aaatggacac gtctcatctg acccactctt   1872
ccttccactg aaggtcttca cgggcctcca ggtggaccaa agggatgcac aggcggctcg   1932
catgccccag ggccagctaa gagttccaaa gatctcagat ttggttttag tcatgaatac   1992
ataaacagtc tcaaactcgc acaatttttt ccccctttg aaagccactg gggccaattt    2052
gtggttaaga ggtggtgaga taagaagtgg aacgtgacat ctttgccagt tgtcagaaga   2112
atccaagcag gtattggctt agttgtaagg gctttaggat caggccgaat atgaggacaa   2172
agtgggccac gttagcatct gcagagatca atctggaggc ttctgtttct gcattctgcc   2232
acgagagcta ggtccttgat cttttcttta gattgaaagt ctgtctctga acacaattat   2292
ttgtaaaagt tagaagttct tttttaaatc attaaaagag gcttgctgaa aaaaaaaaaa   2352
aaaaaaaaa                                                          2361
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<210> 17
<211> 209
<212> PRT
<213> Homo sapiens

<400> 17

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Met Leu Gly Ala Leu Val Trp Met Leu Val Ala Gly Phe Leu Leu Ala
 1               5                  10                  15
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```
Leu Pro Pro Ser Trp Ala Ala Gly Ala Pro Arg Ala Gly Arg Arg Pro
            20                  25                  30
Ala Arg Pro Arg Gly Cys Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln
        35                  40                  45
Leu Tyr Gly Arg Leu Ala Ala Gly Val Leu Ser Ala Phe His His Thr
    50                  55                  60
Leu Gln Leu Gly Pro Arg Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala
65                  70                  75                  80
Gly Gly Arg Pro Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg
                85                  90                  95
Ser Val Ser Pro Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr
            100                 105                 110
Pro Arg Tyr Leu Pro Glu Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr
        115                 120                 125
Gly Leu Phe Gly Glu Glu Asp Val Arg Phe Arg Ser Ala Pro Val Tyr
    130                 135                 140
Met Pro Thr Val Val Leu Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg
145                 150                 155                 160
Ser Val Tyr Thr Glu Ala Tyr Val Thr Ile Pro Val Gly Cys Thr Cys
                165                 170                 175
Val Pro Glu Pro Glu Lys Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp
            180                 185                 190
Lys Gln Gly Ala Lys Leu Leu Leu Gly Pro Asn Asp Ala Pro Ala Gly
        195                 200                 205
Pro
```

<210> 18
<211> 187
<212> PRT
<213> Homo sapiens

<400> 18

```
Ala Gly Ala Pro Arg Ala Gly Arg Arg Pro Ala Arg Pro Arg Gly Cys
 1               5                  10                  15
Ala Asp Arg Pro Glu Glu Leu Leu Glu Gln Leu Tyr Gly Arg Leu Ala
            20                  25                  30
Ala Gly Val Leu Ser Ala Phe His His Thr Leu Gln Leu Gly Pro Arg
        35                  40                  45
Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly Gly Arg Pro Ala Asp
    50                  55                  60
Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro Trp Ala
65                  70                  75                  80
Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu
                85                  90                  95
```

```
Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly Glu Glu
            100                 105                 110
Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val Val Leu
        115                 120                 125
Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala
    130                 135                 140
Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys
145                 150                 155                 160
Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu
                165                 170                 175
Leu Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
            180                 185
```

<210> 19
<211> 54
<212> PRT
<213> Homo sapiens

<400> 19

```
Gln Leu Gly Pro Arg Glu Gln Ala Arg Asn Ala Ser Cys Pro Ala Gly
 1               5                  10                  15
Gly Arg Pro Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser
            20                  25                  30
Val Ser Pro Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro
        35                  40                  45
Arg Tyr Leu Pro Glu Ala
    50
```

<210> 20
<211> 16
<212> PRT
<213> Homo sapiens

<400> 20

```
Arg Pro Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val
 1               5                  10                  15
```

<210> 21
<211> 57
<212> PRT
<213> Homo sapiens

<400> 21

```
Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr Glu Ala
 1               5                  10                  15
```

```
Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro Glu Lys
            20                  25                  30
Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala Lys Leu
        35                  40                  45
Leu Leu Gly Pro Asn Asp Ala Pro Ala
    50                  55
```

<210> 22
<211> 14
<212> PRT
<213> Homo sapiens

<400> 22

```
Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu Pro Glu Ala
 1               5                  10
```